

Serial No.: 09/871,171

Docket No.: KCC-15,135

Amendment dated 03 February 2004

Reply to Office Action mailed 03 December 2003

### **REMARKS/ARGUMENTS**

This application has been reconsidered carefully in light of the Office Action dated as mailed on 03 December 2003. A careful reconsideration of the application by the Examiner in light of the above Amendment and the following remarks is respectfully requested.

This response is timely filed as it is filed within the three (3) month shortened statutory period for response to the outstanding Office Action. Further, as this response is hereby filed within two (2) months of the mailing date of the outstanding Office Action, it is understood that the shortened statutory period will expire on the date the advisory action is mailed should such advisory action not be mailed until after the end of the three-month shortened statutory period.

There is no additional claim fee due for this Amendment because the total number of claims does not exceed the number of independent and dependent claims for which fees have previously been paid.

### **Amendments to the Claims**

By the above, Applicants have amended independent Claim 1 to require a first layer comprising a *fibrous* nonwoven web and the limitation of *differentially* shrinking at least one of the first layer and the second layer to *increase a bulk of the composite material and produce a structure of the structured composite material*.

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Applicants have withdrawn Claims 23-31 as being directed to a non-elected invention, as alleged by the Examiner at paragraph 4 of the final Office Action.

Applicants have added new Claims 42-45.

Claims 1, 2, 4-6, 11-17, 19, 20 and 42-45 remain in the application.

**Claim Rejections - 35 U.S.C. § 102(b)**

Claims 1, 2, 4-6, 12 and 14-16 were rejected under 35 U.S.C. § 102(b) as being anticipated by UK Patent Application 1,293,456 ("Breveteam"). This rejection is respectfully traversed particularly in view of the above Amendment and the following remarks.

Applicant's claimed invention produces a structured composite material having a *fibrous* nonwoven web first layer and a film second layer including a plurality of apertures formed through the second layer. At least one of the first layer and the second layer is heated to shrink relative to the other to *increase a bulk of the composite material and produce a structure* of the structured composite material. The differential shrinkage process of the present invention results in bunching or puckering of the first layer and/or the second layer to form or create the structure defined by the first layer and the second layer. Referring to Figs. 2-4, differential shrinkage of the layers provides an increase in overall pore radius and pore volume

to the structured composite material, which increases the bulk and decreases the overall density of the structured composite material. See Applicants' specification at page 24, lines 13-16. The apertures formed in the second layer are effective in transferring particles contained in high viscosity fluids through the second layer into the structure and the first layer is effective in retaining them. Thus, the structured material produced in accordance with this invention has high permeability, significant fiber orientation in the z-direction or bulk, and tactile properties for enhanced dryness. The apertured structured material can be incorporated into a personal care absorbent article suitable for runny bowel movement separation and containment and menses management and containment.

The Examiner alleges that Breveteam is directed to a composite material for accommodating passage of fluids, having apertures formed through all the layers comprising the material. Further, the Examiner alleges that Breveteam teaches: forming a first film layer, which the Examiner alleges is a nonwoven web, having a first shrinkage extent; extruding a second hot melt adhesive film layer onto the first layer, the second layer having a second shrinkage extent different from the first layer; forming apertures through both layers; and heating to shrink both film layers.

However, Breveteam does not disclose a method for producing a structured composite material having a plurality of apertures wherein a first layer

comprising a *fibrous nonwoven web* is formed and a second layer having a shrinkage extent different from the shrinkage extent of the first layer is extruded onto the first layer, as required by amended independent Claim 1. In fact, Breveteam teaches away from using a fibrous nonwoven web first layer. For example, at page 1, lines 8-23, Breveteam teaches that packaging nets made from fibrous plastic materials include plastic material strands that are welded at intersections, which produce an uneven appearance. In response to problems associated with fibrous plastic materials, Breveteam teaches a reticulated film or sheet net made of organic nonfibrous material sheets. See Breveteam at page 1, lines 24-35.

Breveteam does not disclose differential shrinking of at least one of the first layer and the second layer to *increase a bulk of the composite material and produce a structure*, as required by amended independent Claim 1, wherein the fibers of the first layer are oriented in a z-direction to increase the composite material bulk and allow high viscosity fluids to flow through the apertured composite material while containing the high viscosity fluid particles. Unlike the apertured composite material of the present invention, the composite material disclosed in Breveteam comprises a paper layer and a film layer. The paper layer will not shrink if the composite material is heated and, thus, during a differential shrinkage process, the paper layer fibers will not be oriented in a z-direction to increase the bulk of the composite material.

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Applicants believe that the above Amendment and remarks overcome the rejection of Claims 1, 2, 4-6, 12 and 14-16 under 35 U.S.C. § 102(b). Therefore, Applicants respectfully request withdrawal of this rejection.

**Claim Rejections - 35 U.S.C. § 103(a)**

Claims 11, 13 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Breveteam. This rejection is respectfully traversed particularly in view of the above Amendment and the following remarks.

Claims 11 and 13 ultimately depend from and further limit independent Claim 1. By the above Amendment, Claim 23 has been withdrawn from further consideration. Applicants believe that amended independent Claim 1 is patentable for at least the reasons presented above. Thus, Applicants respectfully request withdrawal of this rejection.

Claims 1, 2, 4-6, 11-15, 17, 19 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Breveteam in view of U.S. Patent 6,503,431 ("Kasai et al."). This rejection is respectfully traversed particularly in view of the above Amendment and the following remarks.

With regard to Claim 1, the Examiner alleges that Breveteam teaches forming a composite material by bonding a film layer having a heat shrinkage extent to a paper layer having a shrinkage extent different from that of the film. The

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Examiner further indicates that Breveteam is silent as to extruding the film onto the paper.

As discussed above, Breveteam does not teach or suggest important claimed limitations of Applicants' invention. Breveteam does not disclose differential shrinking of at least one of the fibrous nonwoven web first material and the film second layer to *increase a bulk of the composite material and produce a structure*, as required by amended independent Claim 1. As a result of the differential shrinkage of the present invention, the fibers of the first layer are oriented in a z-direction to increase the composite material bulk. Unlike the apertured composite material of the present invention, the composite material disclosed in Breveteam comprises a paper layer and a film layer. The paper layer will not shrink if the composite material is heated and, thus, during a differential shrinkage process, the paper layer fibers will not be oriented in a z-direction to increase the bulk of the composite material.

Kasai et al. does not overcome the deficiencies of Breveteam, regardless of whether Kasai et al. teaches extruding polyethylene and coating it onto paper, cardboard or cellophane. Breveteam, alone or in combination with Kasai et al., does not render Applicants' claimed invention obvious as required under 35 U.S.C. § 103. Thus, Applicants respectfully request withdrawal of this rejection.

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### **Conclusion**

It is believed that the above Amendment places all pending claims in condition for allowance and notification to that effect is solicited. However, should the Examiner detect any remaining issue or have any question, the Examiner is kindly requested to contact the undersigned, preferably by telephone, in an effort to expedite examination of the application.

Respectfully submitted,



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